

CLAIMS

1. A DNA segment coding for a polypeptide having an amino acid sequence corresponding to a polypeptide selected from the group consisting of EBI 1, EBI 2, and EBI 3 polypeptides.

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2. The DNA segment according to claim 1, wherein the DNA segment has a sequence selected from the group consisting of sequences set forth in SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5; or allelic, mutant or species variation thereof.

10 3. The DNA segment according to claim 1, wherein the DNA segment has an allelic variation of a sequence selected from the group consisting of sequences set forth in SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5.

15 4. The DNA segment according to claim 1, wherein the DNA segment encodes an amino acid sequence selected from the group consisting of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6, or mutant or species variations thereof.

20 5. The DNA segment according to claim 1, wherein the DNA segment has a sequence selected from the group consisting of sequences set forth in SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5.

6. The DNA segment according to claim 1, wherein the DNA segment encodes an amino acid sequence selected from the group consisting of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

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7. A substantially pure polypeptide having an amino acid sequence corresponding to a polypeptide selected from the group consisting of EBI 1, EBI 2, and EBI 3 polypeptides.

30 8. The polypeptide according to claim 7, wherein the polypeptide has an amino acid sequence selected from the group consisting of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6, or mutant or species variation thereof.

9. A nucleic acid probe for the detection of the presence of Epstein Barr Virus in a sample comprising the DNA segment according to claim 1 or at least 20 contiguous nucleotides thereof.

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10. The nucleic acid probe according to claim 9, wherein the DNA segment has a nucleic acid sequence selected from the group consisting of sequences set forth in SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5, or at least 20 contiguous nucleotides thereof.

10 11. The nucleic acid probe according to claim 9, wherein the probe encodes an amino acid sequence selected from the group consisting of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6, or at least 7 contiguous amino acids thereof.

12. A method of detecting Epstein Barr Virus in a sample comprising:

15 a) contacting said sample with the nucleic acid probe according to claim 9, under conditions such that hybridization occurs, and
b) detecting the presence of said probe bound to RNA.

20 13. A kit detecting the presence of Epstein Barr virus in a sample comprising at least one container means having disposed therein the nucleic acid probe according to claim 9.

14. A recombinant DNA molecule comprising, 5' to 3', a promoter effective to initiate transcription in a host cell and the DNA segment according to claim 1.

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15. A cell that contains the DNA molecule according to claim 14.

16. A recombinant DNA molecule comprising a vector and the DNA segment according to claim 1.

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17. A cell that contains the recombinant DNA molecule according to claim 16.

18. A recombinant DNA molecule comprising a transcriptional region functional in a cell, a sequence complimentary to an RNA sequence encoding an amino acid sequence corresponding to the polypeptide of claim 7, and a transcriptional termination region functional in said cell.

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19. A cell that contains the recombinant DNA molecule according to claim 18.

20. An antibody having binding affinity to a polypeptide having an amino acid sequence selected from the group consisting of EBI 1, EBI 2, and EBI 3 polypeptide, or a
10 binding fragment thereof.

21. The antibody according to claim 20, wherein said polypeptide has an amino acid sequence selected from the group of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6, or mutant or species variation thereof.

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22. The antibody according to claim 20, wherein said antibody is a monoclonal antibody.

23. A method of detecting a polypeptide selected from the group consisting of EBI
20 1, EBI 2, EBI 3 in a sample, comprising:

- a) contacting said sample with an antibody according to claim 20, under conditions such that immunocomplexes form, and
- b) detecting the presence of said antibody bound to said polypeptide.

25 24. A diagnostic kit comprising:

- I) a first container means containing the antibody according to claim 20,
and
- ii) second container means containing a conjugate comprising a binding partner of said monoclonal antibody and a label.

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25. A hybridoma which produces the monoclonal antibody according to claim 22, or binding fragment thereof.

26. The hybridoma according to claim 25, wherein said polypeptide has an amino acid sequence selected from the group of sequences set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, or mutant or species variation thereof, or at least 7 contiguous amino acids
5 thereof.